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# Report of Work on the Fir Bark Louse in 1936

by

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# The Fir Bark Louse (*Adelges picea* Ratz.)

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## I The Abundance of the Insect in 1936

General observations made this year in Maine, New Hampshire and Vermont would indicate that the fir bark louse is not as prevalent and the number of dying trees is noticeably less.

In New York, however, intensive scouting by the Department of Conservation has disclosed a rather general infestation throughout the southern Adirondack foothills from Minerva west to the vicinity of Utica. In the Adirondacks proper no infested trees have been found. Although the infestation in this region is generally light a considerable number of heavily infested trees have been found and the twig affection, or gout disease, is common. Only a small number of dead or dying trees has been reported. It should not be taken for granted that the New York infestation is increasing in intensity; it is more probable that the larger size of the infested area is due to the careful work by the Department of Conservation scout and the fact that he was able to cover a much larger acreage away from the road than was possible in 1935. He was assisted during the period by a crew of four or five picked men from the Speculator CCC Camp. That their work was done in a painstaking manner is evidenced by the fact that extremely light infestations were picked up, in several places, somewhat distant from heavily attacked stands.

II Control Measures

In New York preliminary experiments on controlling the fir bark louse by the elimination of attacked trees in infested stands have been instituted. No details of these experiments are available at the present time, and, in any case, no accurate evidence of the elimination of the bark louse can be obtained for at least another year.

In April 1935 four half-acre plots at Grantham, N. H., were sprayed with the following spray solutions: I, lime sulphur 1-9; II, lime sulphur 1-20; III, Sunoco Oil 1-25; IV, Volck Oil 1-25. An additional half- acre untreated plot was used as a check. The plots are rectangular in shape, laid out along route 10, the so-called College Highway, about 3 miles north of the town of Grantham, and .4 miles north of highway marker #69. The land is owned by H. R. Sherman. The boundaries of the plots were marked with white paint; corner trees were marked with double bands and perpendicular lines. A large tree at the center of each plot on the line along the road was marked with the number of the plot. About one month after the spraying operation 12 trees, situated approximately in the center of each plot running along the long axis, were marked for future observations. The position of these trees was chosen to eliminate any possible driftage of spray solution from other plots.

Examinations on June 10-12 and on August 26, 1935 showed that there was complete control in the two lime sulphur plots and also in the Volck plot. A very light infestation was noted on one tree in the Sunoco plot.

On October 5, 1936 an examination of these spray plots was made. Although there appears to be a general decrease in the infestation a few trees in the check plot show heavier attack than in 1935. On the other hand

there is no new attack in the four sprayed plots (there is no attack on the tree in the Sunoco plot previously reported as "very light"). None of the sprayed trees, which were heavily attacked at the time of treatment, have died. In fact some of them appear to be in a vigorous condition. One of the objects of this spraying project was to ascertain if the fir bark louse was the causal agent in the death of the trees or if the trees would die from some other reason if the bark lice were eliminated. It would appear from this study that the bark louse is the chief cause of the death of the balsam fir in New England during the past few years. From a control viewpoint any of the spray solutions used can be considered effective. They are, however, too expensive for use in forested areas, but can be used to advantage on ornamental trees. The spraying work was done by S. F. Potts assisted by L. D. Casey.